
**PART I
MANLIFTS-HAND POWER**

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WAC 296-56-60180 Scope and application. WAC 296-56-60180 through 296-56-60207 apply to the installation, design, and use of all one man capacity, hand power counterweighted elevators subject to inspection under RCW 49.17.120.

[Statutory Authority: RCW 49.17.040 and 49.17.050. 86-03-064 (Order 86-02), § 296-56-60180, filed 1/17/86; 85-01-022 (Order 84-24), § 296-56-60180, filed 12/11/84.]

WAC 296-56-60183 Hoistway landings.

- (1) Every hoistway landing shall be protected on all sides other than the landing opening side with a standard guard rail and intermediate guard rail. All landings except the bottom landing shall have a toe board installed on all sides except the landing opening side.
- (2) All hoistway entrances shall be not less than six feet six inches in height and in no case shall the width exceed the corresponding car dimensions.
- (3) All hoistway entrances must be provided with an approved maze or with a hoistway gate which shall:
 - (a) Be at least thirty-six inches in height.
 - (b) Extend downward to within one inch of the landing sill.
 - (c) Be of the self-closing type, designed to swing horizontally out from the hoistway and closing against a full jam stop.
 - (d) Be located within four inches of the hoistway edge of the landing sill.
 - (e) Have a "DANGER" sign conspicuously posted on the landing side of the hoistway gate.
 - (f) Withstand a two hundred fifty pound horizontal thrust.
- (4) All projections extending inwardly from the hoistway enclosure at the entrance side of the car platform shall be bevelled and substantially guarded on the underside by smooth solid material set at an angle of not less than sixty degrees, nor more than seventy-five degrees from the horizontal when cars are not equipped with gates.

[Statutory Authority: RCW 49.17.040 and 49.17.050. 86-03-064 (Order 86-02), § 296-56-60183, filed 1/17/86; 85-01-022 (Order 84-24), § 296-56-60183, filed 12/11/84.]

WAC 296-56-60185 Hoistway clearances.

- (1) The minimum clearance between the side of the car and a hoistway enclosure shall be one inch.
- (2) The clearance between the car platform and the landing sill shall not be less than one-half inch and not more than one and one-half inches.

[Statutory Authority: RCW 49.17.040 and 49.17.050. 85-01-022 (Order 84-24), § 296-56-60185, filed 12/11/84.]

WAC 296-56-60187 Habitable space under hoistways. There shall be no habitable space below the elevator hoistway or counterweight shaft unless the floor is supported to withstand any impact caused by the car or counterweight dropping freely onto the floor.

[Statutory Authority: RCW 49.17.040 and 49.17.050. 85-01-022 (Order 84-24), § 296-56-60187, filed 12/11/84.]

WAC 296-56-60189 Hoistway guide rails.

- (1) There shall be a minimum of two opposing guide rails extending to a point six inches beyond the full height of travel of the car when the counterweight buffer is fully compressed.
- (2) All rails shall be attached by bolts, lag screws or other approved methods to a vertical supporting member which shall not exceed one-half inch deflection with the application of a two hundred fifty pound horizontal thrust at any point.

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- (3) Wood guide rails shall be at least one and one-half inch by one and one-half inch vertical grain fir or equivalent and shall not vary more than three-sixteenth inch in thickness on the sides which the brakes contact. All joints shall be kept smooth and even.

[Statutory Authority: RCW 49.17.040 and 49.17.050. 86-03-064 (Order 86-02), § 296-56-60189, filed 1/17/86; 85-01-022 (Order 84-24), § 296-56-60189, filed 12/11/84.]

WAC 296-56-60191 Buffer springs and overtravel of car. Substantial spring buffers shall be installed below the car and also below the counterweight. The hoisting rope shall be of such length that the car platform will not be more than eight inches above the top landing when the counterweight buffer spring is fully compressed.

[Statutory Authority: RCW 49.17.040 and 49.17.050. 86-03-064 (Order 86-02), § 296-56-60191, filed 1/17/86; 85-01-022 (Order 84-24), § 296-56-60191, filed 12/11/84.]

WAC 296-56-60193 Car specifications.

- (1) The car shall be built to the following specifications:
- (a) The car platform shall be not greater than thirty inches on either side (6.25 square feet area).
 - (b) The car frame and platform shall be of steel or sound seasoned wood construction and be designed with a safety factor of not less than four for metal and six for wood, based on a maximum capacity of two hundred fifty pounds.
 - (c) All frame members shall be securely bolted, riveted or welded and braced. If bolted, lock washers or lock nuts shall be used.
 - (d) Where wooden frame members are bolted, large washers or metal plates shall be used to minimize the possibility of splitting or cracking the wood.
- (2) The sides of the car shall be enclosed by a minimum of two safety guard rails with the top rail not less than thirty-six inches nor more than forty-two inches from the car floor. Rails shall sustain a horizontal thrust of two hundred fifty pounds. If solid material is used it shall be smooth surfaced and not less than one-half inch thickness, if wood; not less than sixteen gauge thickness, if steel; and shall be constructed from the car floor to a height of not less than three feet.
- (a) Where the hoistway is not enclosed on the entrance side of the car, a self-locking or drop bar gate must be provided. The car gate may be of the folding type, horizontally swung, provided it swings into the car enclosure. Drop bar gates must be of two bar construction, parallelogram type, and conform to requirements specified for car guard rails.
 - (b) The car gate shall drop into locking slots or be provided with a positive locking type latch capable of withstanding two hundred fifty pounds horizontal thrust.
- (3) Every car shall have a substantial protective top. The front half may be hinged. The protective top may be made from number nine U.S. wire gauge screen, eleven gauge expanded metal, fourteen gauge sheet steel, three-quarter inch or heavier plywood. If made of wire screen or metal, the openings shall reject a one-half inch diameter ball.
- (4) Every car shall have a proper rack to hold the balance weights.
- (5) A sign bearing the following information shall be conspicuously posted within the car:
- (a) Maximum capacity one person;
 - (b) Total load limit in pounds;

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- (c) For authorized personnel use only.
- (6) Every car shall be equipped with a spring loaded foot brake which:
 - (a) Operates independently of the car safeties;
 - (b) Operates in both directions and will stop and hold the car and its load;
 - (c) Locks the car in its position automatically whenever the operator releases the pressure on the foot pedal.
- (7) Every car shall be equipped with a car safety device which:
 - (a) Applies to the sides of the main guide rails;
 - (b) Stops and holds the car and its load immediately when the hoisting rope breaks.
- (8) Every car shall have a minimum clearance of six feet six inches from the top of the car platform to the bottom edge of the crosshead or any other obstruction.
- (9) A tool box with minimum dimensions of four inches wide by sixteen inches long by three inches in depth shall be provided and firmly attached to the car structure.

[Statutory Authority: RCW 49.17.040 and 49.17.050. 86-03-064 (Order 86-02), § 296-56-60193, filed 1/17/86; 85-01-022 (Order 84-24), § 296-56-60193, filed 12/11/84.]

WAC 296-56-60195 Counterweights.

- (1) The assembly of sectional counterweights shall conform to the following requirements:
 - (a) Rectangular counterweights shall be held together by at least two tie rods one-half inch in diameter fastened with lock washers and double nuts or other approved means.
 - (b) One three-quarter inch rod may be used to hold the sections of a round counterweight together. Any additional sections or weights shall be secured by an approved means.
- (2) The eye bolt for the rope hitch shall be attached to the counterweight in a manner that will prevent the eye bolt from coming loose. The eye of eye bolts shall be welded to prevent it from opening.
- (3) Every counterweight runway shall be enclosed with substantial unperforated material for its full distance of travel. Inspection openings shall be provided at either the top or bottom of the counterweight runway. These openings shall be substantially covered at all times except when actually being used for inspection of counterweight fastenings.
- (4) Workmen shall load the counterweight for the proper balance of the heaviest person using the elevator and others shall use compensating weights, which shall be available, to maintain a balance.
- (5) On elevators with travel of seventy-five feet or more, a compensating chain or cable shall be installed to maintain the proper balance of the counterweight to the car and load in all positions.

[Statutory Authority: RCW 49.17.040 and 49.17.050. 86-03-064 (Order 86-02), § 296-56-60195, filed 1/17/86; 85-01-022 (Order 84-24), § 296-56-60195, filed 12/11/84.]

WAC 296-56-60197 Sheaves. The minimum sheave diameter shall be forty times the diameter of the ropes used, i.e., fifteen inch for three-eighths inch rope.

[Statutory Authority: RCW 49.17.040 and 49.17.050. 85-01-022 (Order 84-24), § 296-56-60197, filed 12/11/84.]

WAC 296-56-60199 Hoisting ropes.

- (1) Hoisting rope shall be of good grade traction elevator wire rope, and shall:
 - (a) Be not less than three-eighths inches in diameter.
 - (b) Provide a safety factor of five based on the maximum weight supported.
 - (c) Be of sufficient length to prevent the counterweight from striking the overhead structure when car is at bottom, and prevent the car from striking the overhead before the counterweight is at its lower limit of travel.
 - (d) Be fastened at each end by at least three or more clamps, with the “U” of the clamp bearing on the dead end of the rope.
 - (e) Where passed around a metal or other object less than three times the diameter of the cable, have a thimble of the correct size inserted in the eye.
- (2) Approved sockets or fittings with the wire properly turned back and babbitted may be used in place of clamps noted in subsection (1)(d) of this section.

[Statutory Authority: RCW 49.17.040 and 49.17.050. 86-03-064 (Order 86-02), § 296-56-60199, filed 1/17/86; 85-01-022 (Order 84-24), § 296-56-60199, filed 12/11/84.]

WAC 296-56-60201 Operating rope. The operating rope shall be of soft hemp or cotton at least three-quarter inch in diameter. It shall be securely fastened at each end and shall be in proper vertical alignment to prevent bending or cutting where it passes through the openings in the platform or the protective top of the car.
[Statutory Authority: RCW 49.17.040 and 49.17.050. 86-03-064 (Order 86-02), § 296-56-60201, filed 1/17/86; 85-01-022 (Order 84-24), § 296-56-60201, filed 12/11/84.]

WAC 296-56-60203 Lighting. Adequate lighting shall be provided at each landing and in the shaftway.
[Statutory Authority: RCW 49.17.040 and 49.17.050. 85-01-022 (Order 84-24), § 296-56-60203, filed 12/11/84.]

WAC 296-56-60205 Overhead supports. The overhead supporting members shall be designed, based upon impact loads, with a safety factor of:

- (1) Nine if wood;
 - (2) Five if steel.
- [Statutory Authority: RCW 49.17.040 and 49.17.050. 86-03-064 (Order 86-02), § 296-56-60205, filed 1/17/86; 85-01-022 (Order 84-24), § 296-56-60205, filed 12/11/84.]

WAC 296-56-60207 General requirements.

- (1) No person other than an employee or duly authorized person shall ride or be permitted to ride in the car.
- (2) Escape ladders shall be installed extending the full length of the hoistway and shall be located in a position so that, in an emergency, a person can safely transfer from the car platform to the ladder. An “IMPAIRED CLEARANCE” sign shall be posted at the bottom of a ladder when the face of the ladder is less than thirty inches from any structure.

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- (3) An automatic safety dog or device which will prevent the car from leaving the landing until manually released by the operator shall be installed at the bottom landing.
- (4) A fire extinguisher in proper working condition shall be available in the car.

Note: For additional requirements relating to portable fire extinguishers see WAC 296-800-300.

[Statutory Authority: RCW 49.17.010, .040, .050. 01-11-038 (Order 99-36), § 296-56-60207, filed 05/09/01, effective 09/01/01. Statutory Authority: RCW 49.17.040 and 49.17.050. 86-03-064 (Order 86-02), § 296-56-60207, filed 1/17/86; 85-01-022 (Order 84-24), § 296-56-60207, filed 12/11/84.]